



The BetaGauge 301

The 301 is a single sensor pressure calibrator offering great performance at $\pm 0.05\%$ accuracy. It combines pressure with milliAmp and Voltage measurement capabilities, as well as a built-in loop power supply to power transmitters under test. With an optional BPPA-100 adapter, the 301 can even use industry standard BetaPort-P high performance pressure modules. A large backlit display can be configured to show one, two or three variables. Another advanced feature not normally seen in this price range is the ability to easily perform pressure switch tests. The calibrator automatically captures and displays set and reset values. Pressure readings can be displayed in a number of engineering units including PSI, inches of water (with selectable temperature compensation), Bar, mBar, cmH₂O, kPa and others including a User Defined option. Other features include remote operation via the RS-232 serial port; power from 4 AA Alkaline batteries, standard carrying case and test leads. A range of pressure pumps and pump kits are also available for a full pressure calibration package. The BetaGauge 301 is supplied with carrying case, test leads, instruction manual, set of four AA alkaline batteries, and a N.I.S.T. calibration certificate. Kits include the BetaGauge 301 Pressure Calibrator, carrying case, pneumatic pump, connections and fittings.

General Feature

- Full scale accuracy on all pressure ranges of $\pm 0.05\%$ FS
- Temperature compensation ensures accuracy in the field with no temperature effect over 18 °C to 23 °C
- Standard available pressure ranges — 1, 5, 30, 100, or 300 psi
- 4-20 mA measurement input
- DC Voltage measurement input range 0 to 30 V
- Internal 24 V Loop Power Supply
- Displays in 16 standard engineering units plus one user-defined
- Large graphic style LCD with backlight can be configured to display up to 3 inputs simultaneously
- External pressure module connection supports all BetaPort-P pressure modules
- Switch test on Pressure (internal or external)
- Up to five frequently used setups can be stored; last setup automatically recalled on power-up
- % Error and damping functions

Specifications (18 °C to 28 °C, unless otherwise noted)

Input Ranges

1 psi, 5 psi, 30 psi, 100 psi, 300 psi

Accuracy

All pressure ranges $\pm 0.05\%$ FS
 4-20 mA measurement $\pm 0.015\%$ of rdg; ± 0.002 mA
 0-30 VDC measurement $\pm 0.015\%$ of rdg; ± 0.002 V

Temperature Compensation

18 °C to 23 °C (64 °F to +73 °F) to rated accuracy

Standard Engineering Units

psi, bar, mbar, kPa, kgcm², mmH₂O@4°C, mmH₂O@20°C, cmH₂O@4°C, cmH₂O@20°C, inH₂O@4°C, inH₂O@20°C, inH₂O@60°F, mmHg@0°C, inHg@0°C, ftH₂O@4°C, ftH₂O 0@20°C plus custom

Media Compatibility

Clean Dry Air or Gas only

Environmental

Operating Temperature -10 °C to +55 °C
 Storage -20 °C to +60 °C (-4 °F to +140 °F)

Mechanical

Dimensions 21 cm H x 10 cm W x 4.6 cm D
 (8.3" H x 3.9" W x 1.8" D)
 Weight 1 lb., 4 oz. (0.57 kg)

Input Ports

Pressure 1/8" FNPT, BetaPort-P pressure module, std. banana jacks for mA and V.

Display

Large, backlit, configurable display for 1, 2 or 3 variables

Power

Battery four (4), size AA alkaline batteries
 Battery Life >35 hours continuous typical usage

Accessories (included):
 carrying case, test leads, instruction manual, set of four AA alkaline batteries, and a N.I.S.T. calibration certificate.

Kits include the BetaGauge 301 Pressure Calibrator, carrying case, pneumatic pump, connections and fittings.

BetaGauge 301 Ordering Information

Part Number	Description
1919409	BetaGauge 301, -1...1 psi (-70...70 mbar)
1919410	BetaGauge 301, -5...5 psi (-350...350 mbar)
1919411	BetaGauge 301, -15...30 psi (-1...2 bar)
1919412	BetaGauge 301, -12...100 psi (-0.8...7 bar)
1919413	BetaGauge 301, -12...300 psi (0.8...20 bar)
	All units above include
	• Batteries
	• Test leads
	• NIST traceable calibration certificate
	• User guide
	• Soft sided carrying case
	Kits with test pumps
1919414	BetaGauge 301, 1 psi kit
1919415	BetaGauge 301, 5 psi kit
1919416	BetaGauge 301, 30 psi kit
1919417	BetaGauge 301, 100 psi kit
1919418	BetaGauge 301, 300 psi kit
	All kits include
	• Calibrator as above
	• Hard sided carrying case
	• MECP100 pneumatic test pump (1, 5, 30, 100 psi ranges)
	• MECP500 pneumatic test pump (300 psi range)
	• Fittings and test hose